

What is claimed is:

1. A holographic apparatus comprising:

5 a transferring unit for receiving an incident laser beam including data read from a plurality of tracks on a holographic medium to produce a focused laser beam;

10 a tracking servo unit for receiving a first portion of the focused laser beam through a plurality of pinholes and, at the same time, reflecting a second portion of the focused laser beam back to the transferring unit through a reflecting section, wherein the tracking servo unit moves the transferring unit or the pinholes to adjust the amount of the first portion of the focused laser beam to thereby retrieve data from a target track among the plurality of tracks, and wherein the second portion of the focused laser beam reflected back to the transferring unit is converted into a return laser beam by the transferring unit; and

15 a focusing servo unit for focusing the return laser beam and then checking a focused image of the return laser beam to compensate for vertical movements of the holographic medium.

2. The apparatus of claim 1, wherein the tracking servo unit includes:

25 a pinhole plate provided with the pinholes and the reflecting section;

a trisection detector for detecting the amount of the first portion of the focused laser beam passing through the pinholes; and

an actuator for moving either the pinhole plate or the transferring unit to control the amount of the first portion of the focused laser beam passing through each of the pinholes.

3. The apparatus of claim 2, wherein the pinholes have a first pinhole for receiving a first region of the focused laser beam containing data of the target track to retrieve data from the target track, a second pinhole and a third pinhole for receiving a portion of the focused laser beam containing data of two tracks nearest to the target track respectively, and wherein the trisection detector compares the amount of a second region of the focused laser beam passing through the second pinhole with that of a third region of the focused laser beam passing through the third pinhole.

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4. The apparatus of claim 3, wherein the actuator moves either the pinhole plate or the transferring unit in order to adjust the amount of the second region of the focused laser beam passing through the second pinhole to be equal to that of the third region of the focused laser beam passing through the third pinhole.

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5. The apparatus of claim 2, wherein, in case the target track is replayed, the pinholes have a first pinhole for entirely receiving a target region of the focused laser beam containing data of the target track to retrieve data from the target track, a second pinhole and a third pinhole for partially receiving the target region of the focused laser beam, the second pinhole and the third pinhole being located on both sides of the target region, and wherein the trisection detector compares the amount of a second region of the focused laser beam passing through the second pinhole with that of a third region of the focused laser beam passing through the third pinhole.

6. The apparatus of claim 1, wherein the transferring unit includes:

a polarization beam splitter for transmitting the incident laser beam;

a quarter wave plate for converting the incident laser beam into a first collimated laser beam; and

a focusing lens for focusing the first collimated laser beam at the pinholes, to thereby produce the focused laser beam,

wherein the second portion of the focused laser beam is reflected back to the focusing lens through the reflecting section and the focusing lens transforms the

second portion of the focused laser beam into a second collimated laser beam, and

wherein the quarter wave plate converts the second collimated laser beam into the return laser beam which is reflected toward the focusing servo unit by the polarization beam splitter.

7. The apparatus of claim 6, wherein the pinholes are located at a focal length of the focusing lens.

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8. A holographic apparatus comprising:

a beam supplying unit for supplying an incident laser beam including data read from a plurality of tracks on a holographic medium;

15 a focusing lens for focusing the incident laser beam at pinholes to thereby produce a focused laser beam;

a pinhole plate for receiving a first portion of the focused laser beam through the pinholes and, at the same time, reflecting a second portion of the focused laser beam back to the focusing lens;

a trisection detector for detecting the amount of the first portion of the focused laser beam passing through each of the pinholes; and

25 an actuator for moving either the pinhole plate or the focusing lens to control the amount of the first portion of the focused laser beam passing through the pinholes for

replaying a target track on the holographic medium,

wherein the second portion of the focused laser beam reflected back to the focusing lens is converted into a return laser beam by the focusing lens, and

5        wherein a focusing servo unit focuses the return laser beam and then checks the focused image of the return laser beam to compensate for vertical movements of the holographic medium.

10    9.    A holographic method comprising the steps of:

(a) producing an incident laser beam by irradiating a reference beam onto a holographic medium having a plurality of tracks;

15        (b) focusing the incident laser beam by a focusing lens, to thereby produce a focused laser beam;

      (c) receiving a first portion of the focused laser beam through pinholes which are located at a pinhole plate and, at the same time, reflecting a second portion of the focused laser beam back to the focusing lens by the pinhole plate;

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(d) detecting the amount of the first portion of the focused laser beam passing through the pinholes; and

(e) moving either the pinhole plate or the focusing lens to control the amount of the first portion of the focused laser beam passing through the pinholes for

25        replaying a target track on the holographic medium,

wherein the second portion of the focused laser beam reflected back to the focusing lens is converted into a return laser beam by the focusing lens, and

5 wherein a focusing servo unit focuses the return laser beam and then checks the focused image of the return laser beam to compensate for vertical movements of the holographic medium.